

# The Houston TranStar Traveler Information Website

*[Http://traffic.tamu.edu](http://traffic.tamu.edu)*

Michael J. Vickich  
Texas Transportation Institute

NATMEC Conference, May 2002  
Orlando, Florida

# Outline

- Introduction
- Data acquisition and processing
- Data dissemination
- Presentation guidelines
- Measuring success

# Introduction

- Brought online in December 1994 to present the color-coded speed map
- FHWA award
- Hosted and maintained by TTI for TxDOT
- Website customers:
  - 1) Public
  - 2) Traffic managers
  - 3) Private sector

# Data Architecture

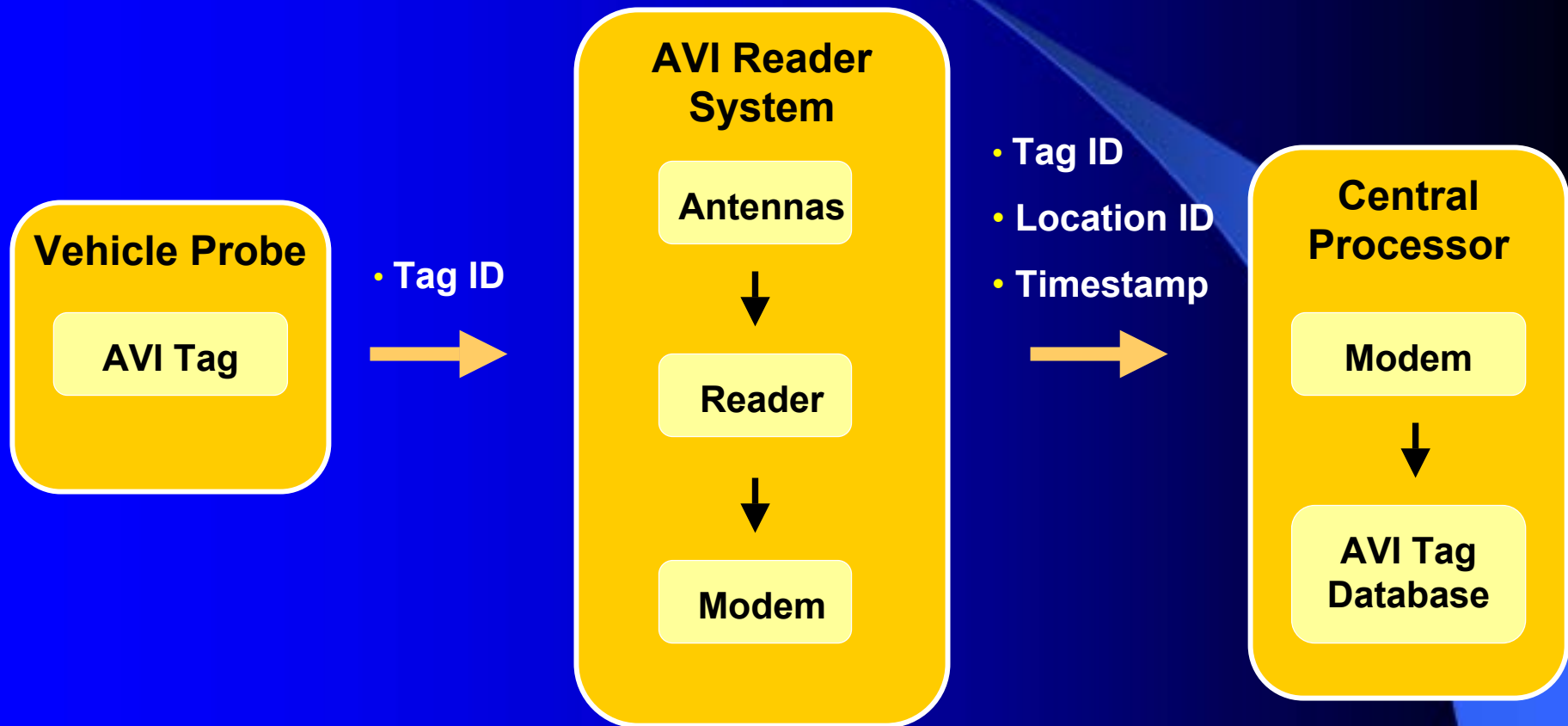
## Data Acquisition

## Data Processing

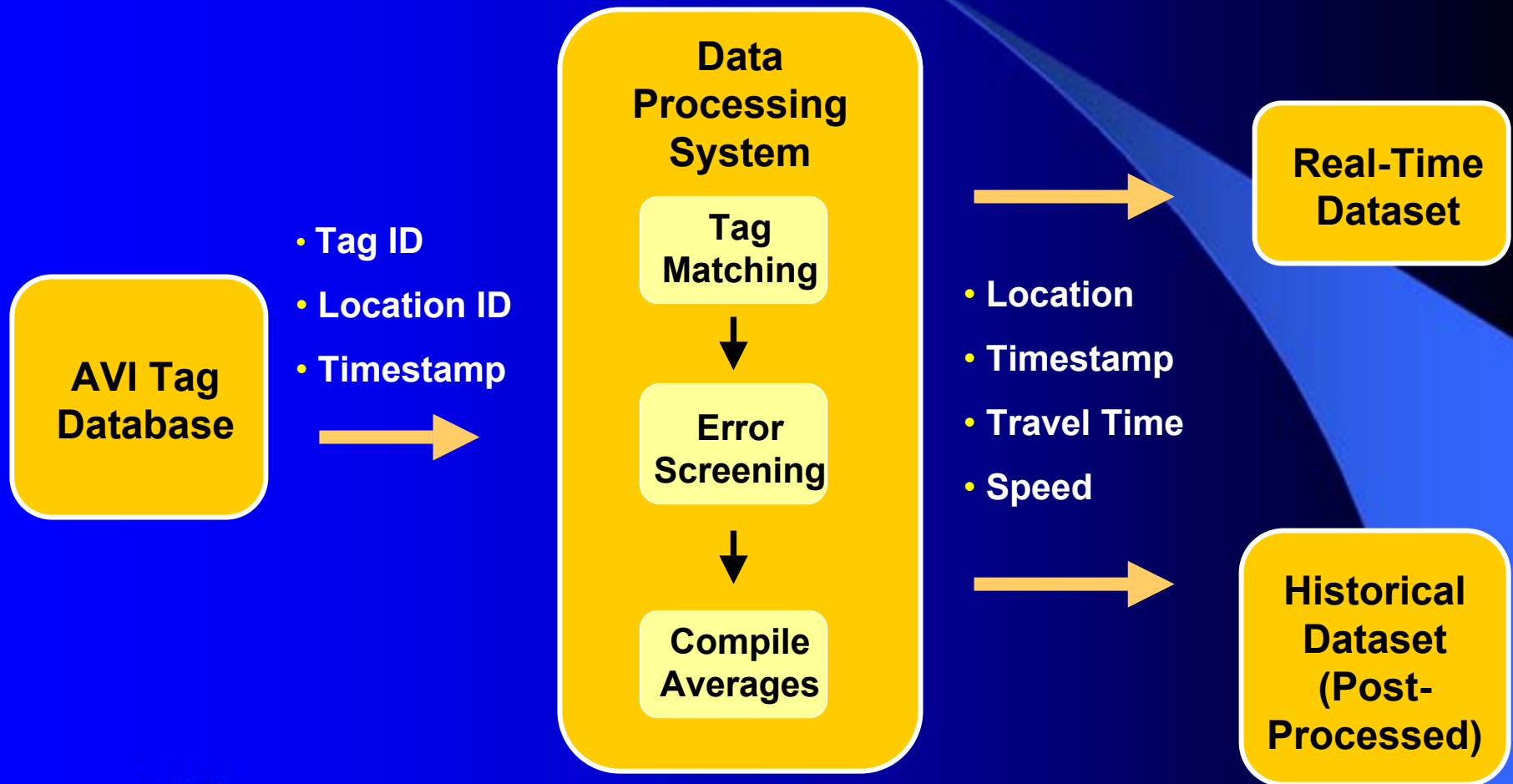
## Data Dissemination



# Data Acquisition Travel Times



# Data Processing Travel Times



# AVI Facts

- AVI Success Factors
  - High tag penetration
    - 850,000 tags in Houston
    - 1.5 million tag reads per day
    - 10-15% vehicle volume
  - Good roadway coverage
    - 290 directional miles covered by 160 readers
  - Field Maintenance
- AVI benefits for traveler information
  - Provides point-to-point travel times

# Data Acquisition and Processing Closed Circuit TV Cameras

## Roadside

Camera

Camera

Camera

NTSC Video



Video  
Capture

Save as  
Digital  
Snapshot

## Center

Digital  
Image



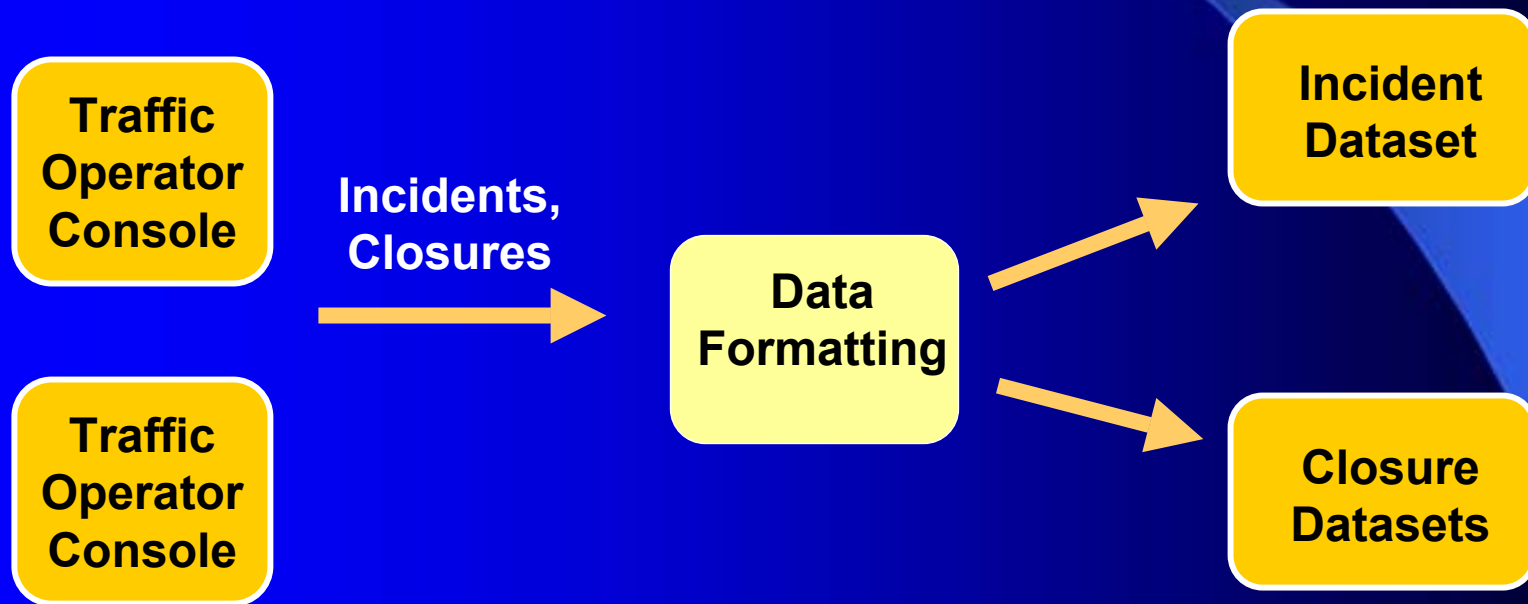
Snapshot

Snapshot

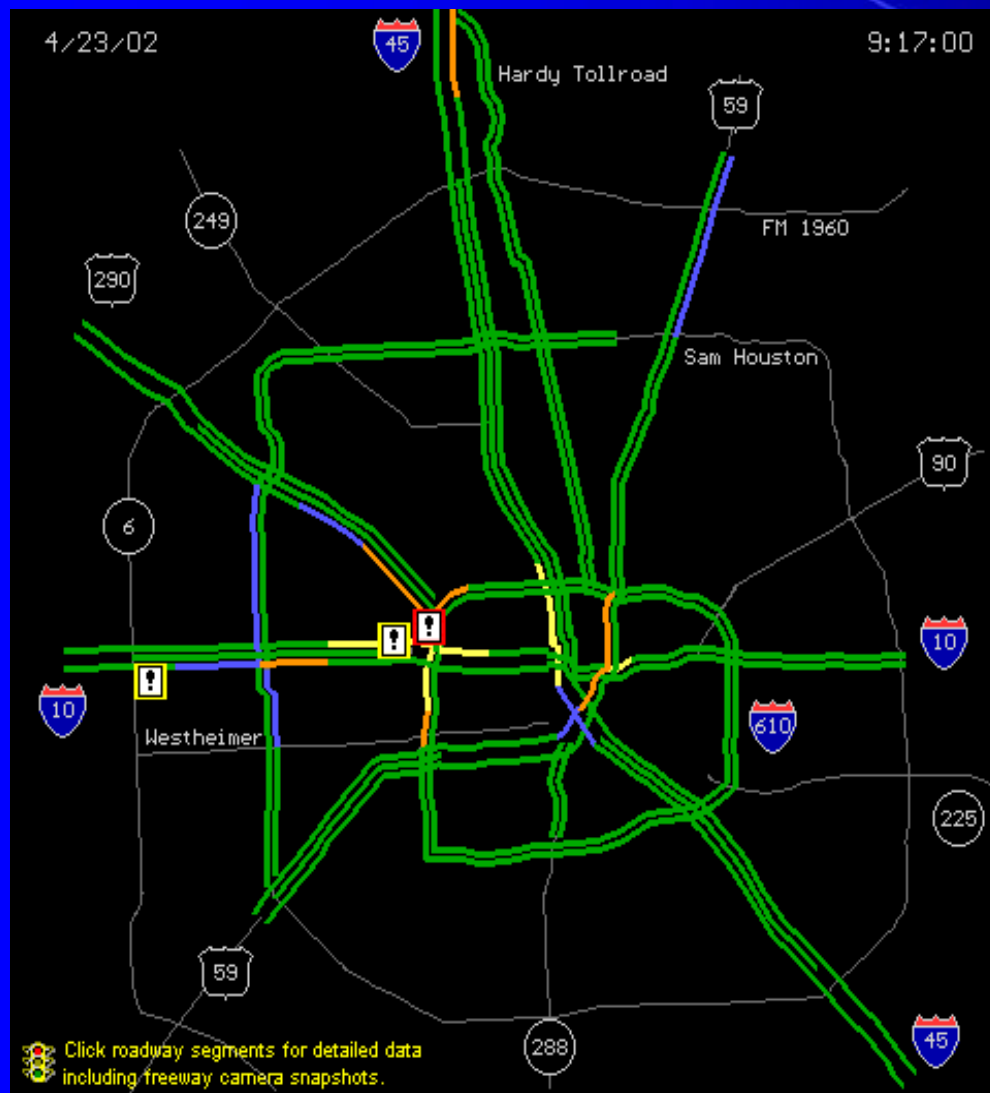
Snapshot



# Data Acquisition and Processing Incidents, Closures



# Data Dissemination – Conditions Map



## Freeway Speed

### I-10 Katy Freeway Eastbound from Sam Houston Tlwy to Blalock

Distance	Travel Time	Speed (MPH)	Other Info
2.25	4:57	27	<a href="#">Live Chart</a> , <a href="#">Freeway Cam</a>

< Close Window > Close this window before opening another one.

Copyright © 2002 Houston TranStar, All Rights Reserved

## Freeway Incident

Location	US-290 Northwest Eastbound At I-610
Description	Major Accident/Collision - 1 lane(s) blocked
Time Reported	9:15 AM
Status	Verified

< Close Window > Close this window before opening another one.

Copyright © 2002 Houston TranStar, All Rights Reserved

### Speed Ranges (MPH)

0-19	
20-29	
30-39	
40-49	
50+	
N/A	

### Freeway Incidents

Active Incident	
Cleared Incident	

# Data Dissemination – Route Builder

## Current Route Data Report

Sensor Locations	Last Data Time	Dist. (miles)	Travel Time	Speed (mph)
I-10 Katy Freeway, Westbound				
Taylor				
T.C. Jester	9:25	2.25	2:04	65
I-610 West Loop Freeway, Northbound				
I-10 Katy Freeway	9:26	2.50	2:35	58
I-610 North Loop Freeway, Eastbound				
Ella	9:24	2.20	2:14	59
Airline	9:24	2.95	2:49	62
Irvington	9:25	1.25	1:24	53
Route Totals :		11.15	11:06	60

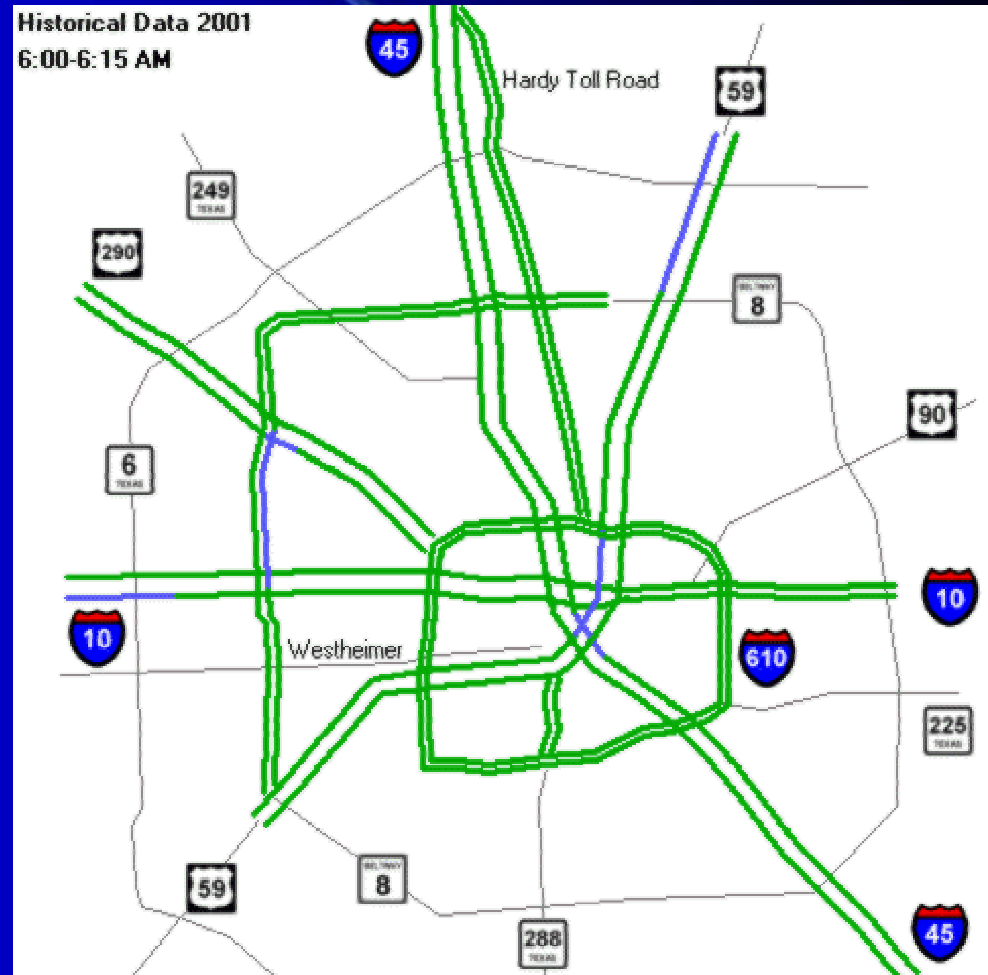
# Data Dissemination – Historical Data

## Travel Times

**2001 Travel Time Averages**  
**I-10 Katy - Inbound**  
**Barker-Cypress to I-610 Loop (13.90 miles)**

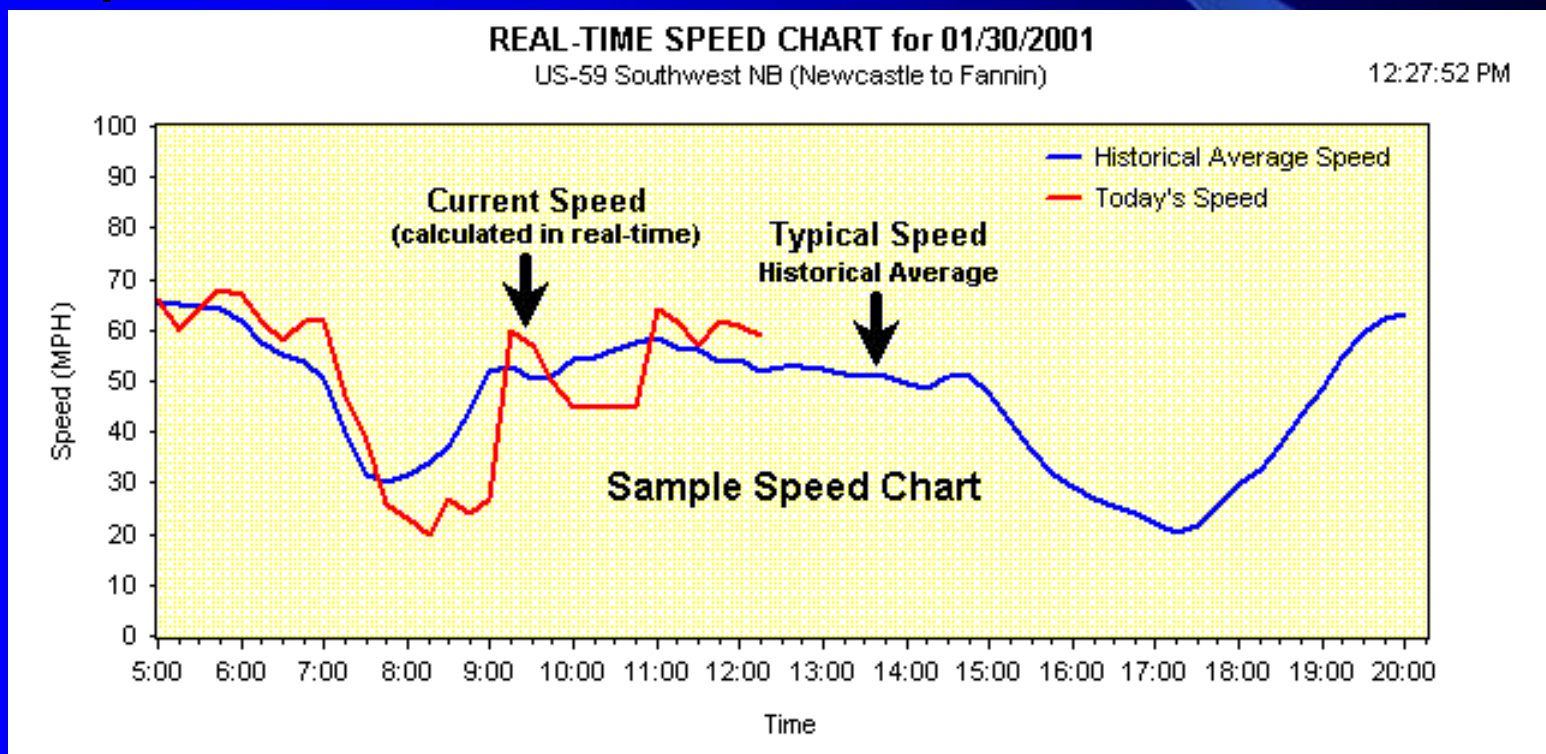
AM Peak			
Departure Time	Travel Time (mm:ss)	Average Speed (mph)	
6:00-6:15	16:28	50.7	●
6:15-6:30	21:53	38.1	●
6:30-6:45	26:51	31.1	●
6:45-7:00	30:35	27.3	●
7:00-7:15	33:21	25.0	●
7:15-7:30	37:22	22.3	●
7:30-7:45	38:51	21.5	●
7:45-8:00	36:11	23.0	●
8:00-8:15	32:40	25.5	●
8:15-8:30	30:28	27.4	●
8:30-8:45	27:44	30.1	●
8:45-9:00	24:32	34.0	●

## Time Elapsed Speed Map



# Data Dissemination Speed Charts

- Plots historical speed vs. real-time speed

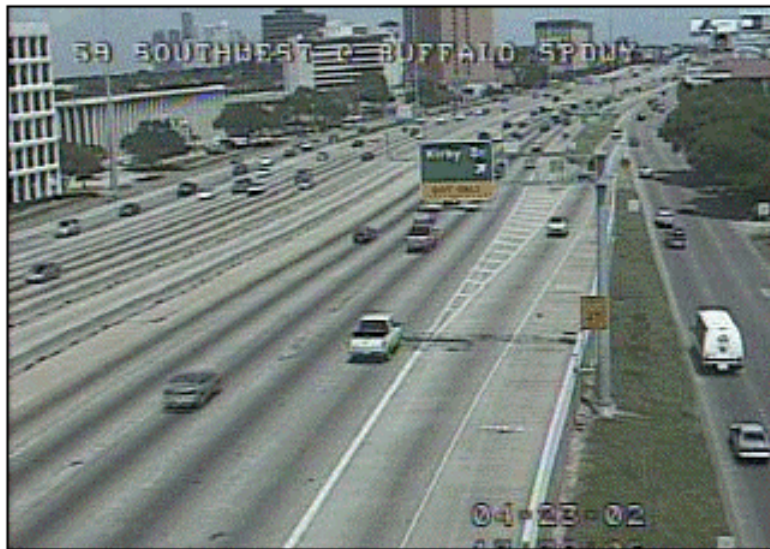




# Data Dissemination CCTV Snapshots

## Live Houston Freeway Snapshot

US-59 Southwest at Buffalo Speedway



Copyright Houston TranStar 4/23/2002 2:42 PM

< [Close Window](#) > < [Refresh](#) > Close this window before opening another one.

Copyright © 2002 Houston TranStar, All Rights Reserved

Camera Direction



East



West

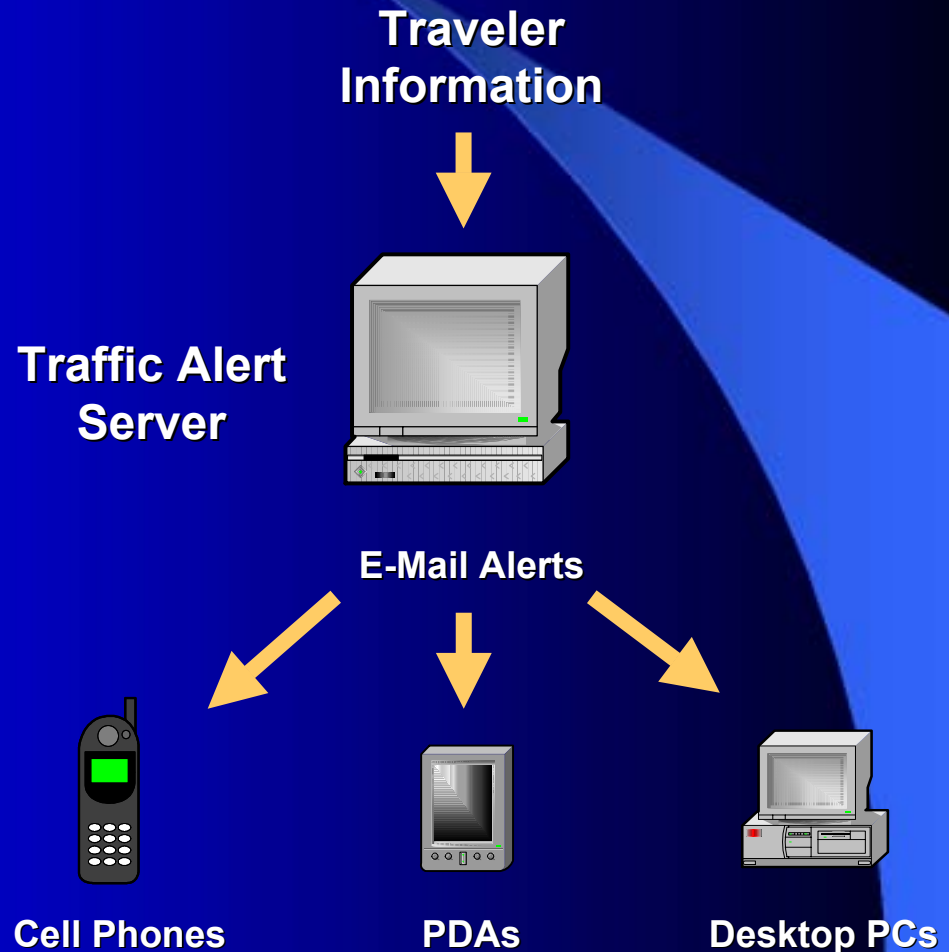
The images above are not live.  
Use them to determine the  
camera direction.

# Data Dissemination Mobile Applications

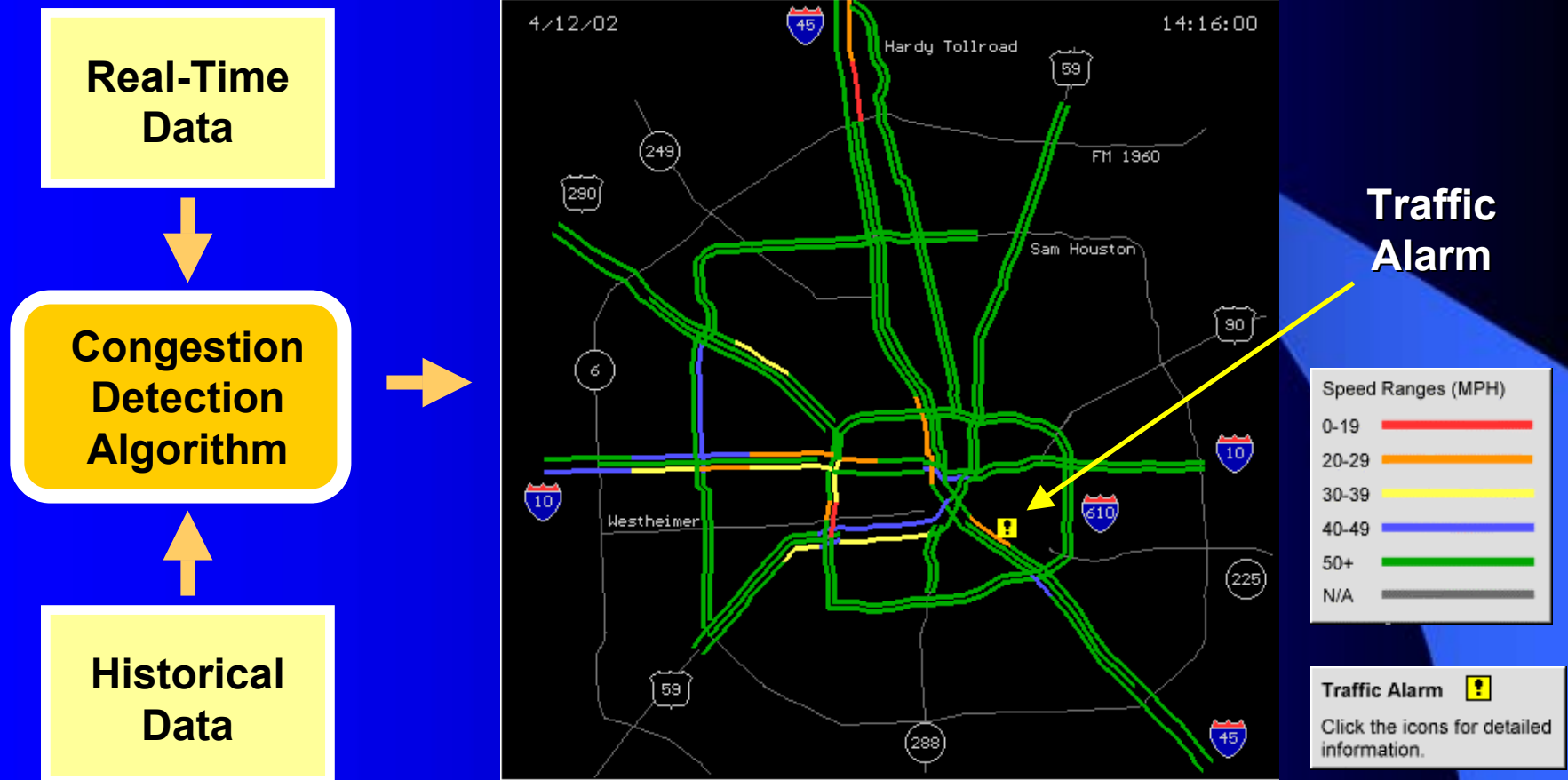
## Mobile Access



## Traffic Alerts



# Data Dissemination Congestion Detection





# Presentation Guidelines

- Consistent design
- Simple navigation
- Quick download times
  - Keep graphic files sizes to a minimum
- Maintain browser compatibility

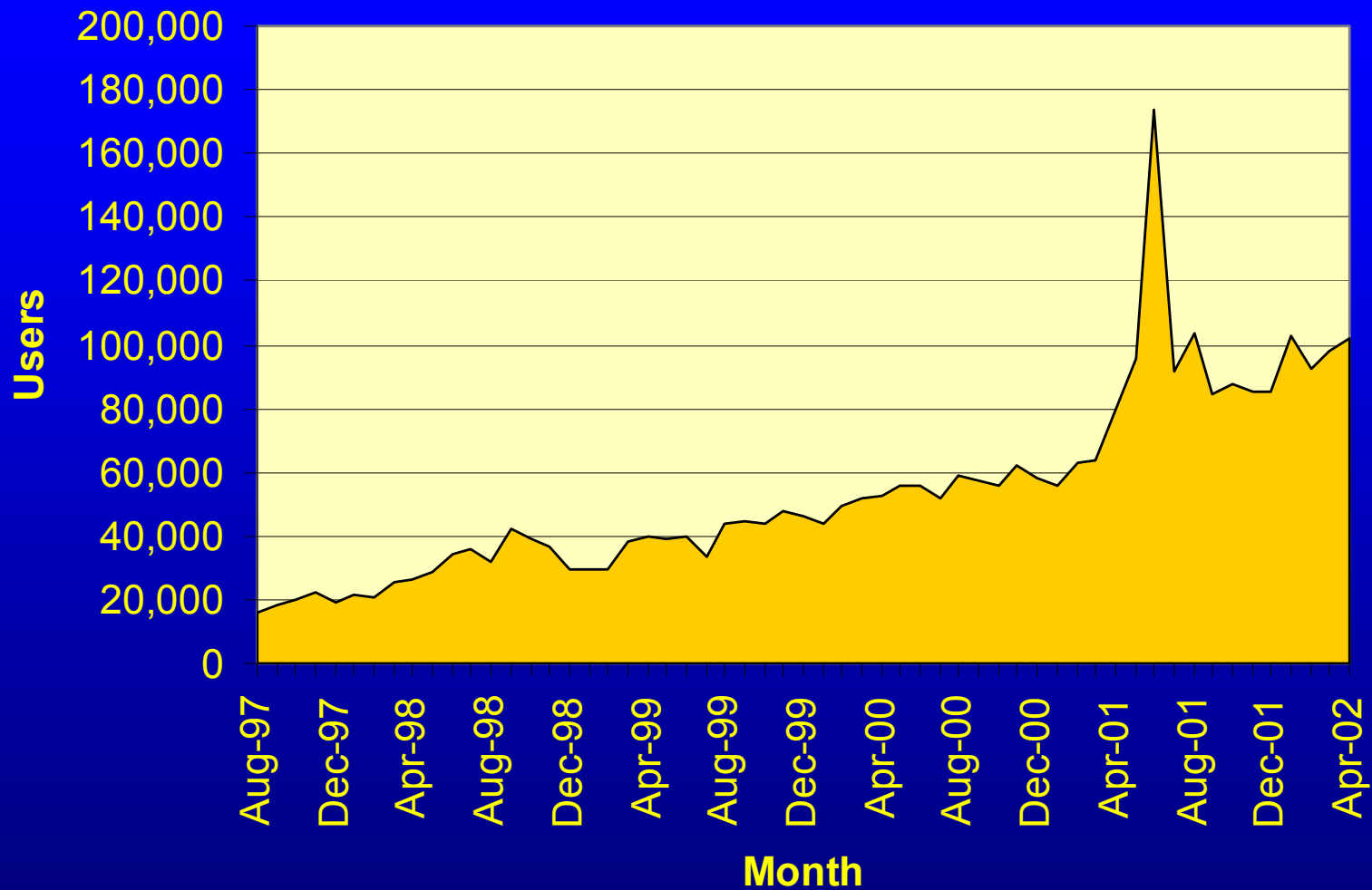
# Presentation Guidelines

- Frequent information updates
  - Clearly display data age to users
  - Establish time to make data unavailable for non-reporting devices
- Multi-dimensional information presentation
  - Speeds, travel times, incidents, snapshots all available on one page

# Measuring Success

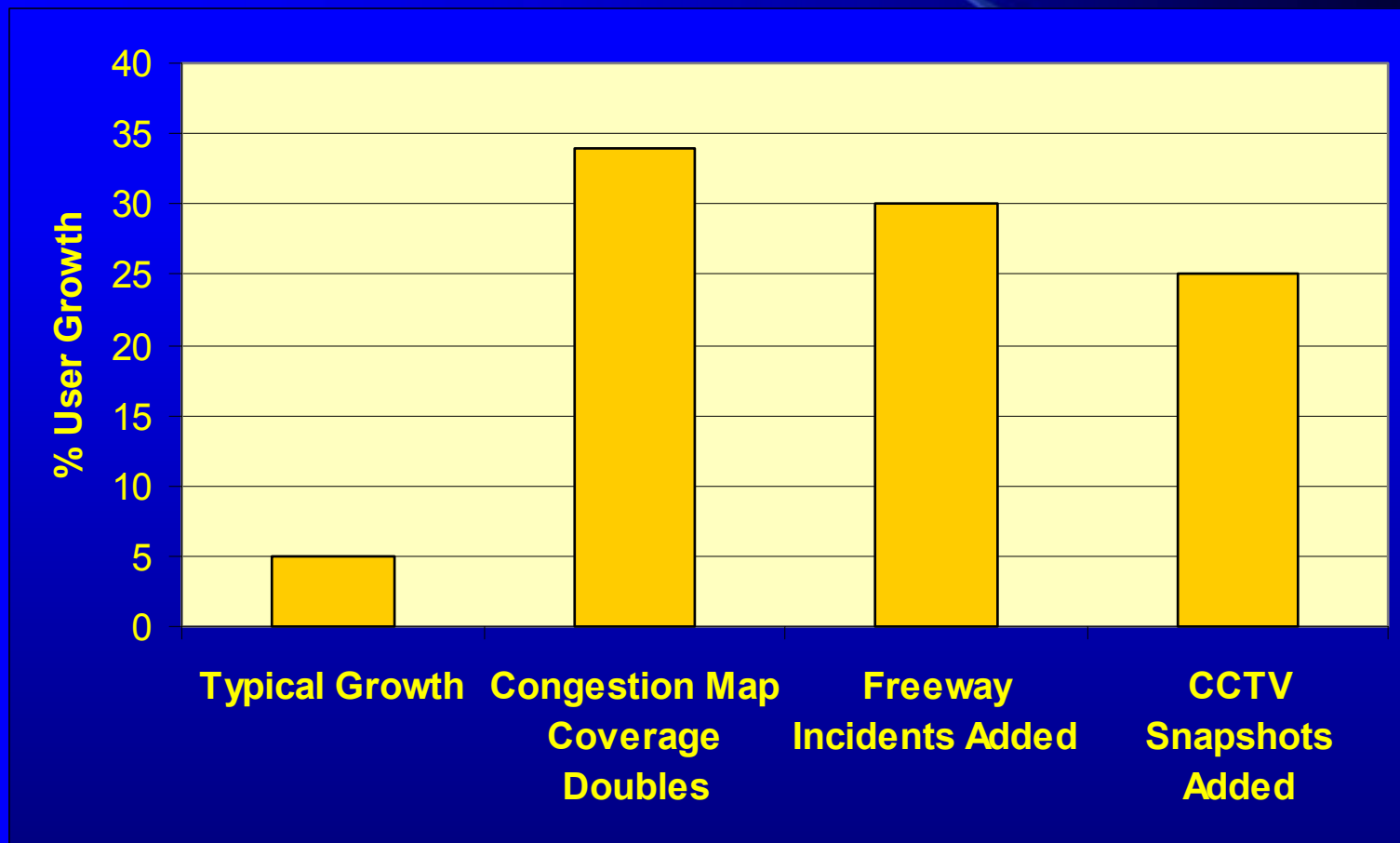
- Web usage growth
- External factors influencing success
- User feedback

# Monthly Website Users – 8/97-4/02



# Website User Growth

Growth In Monthly Website Users After the Addition of New Features

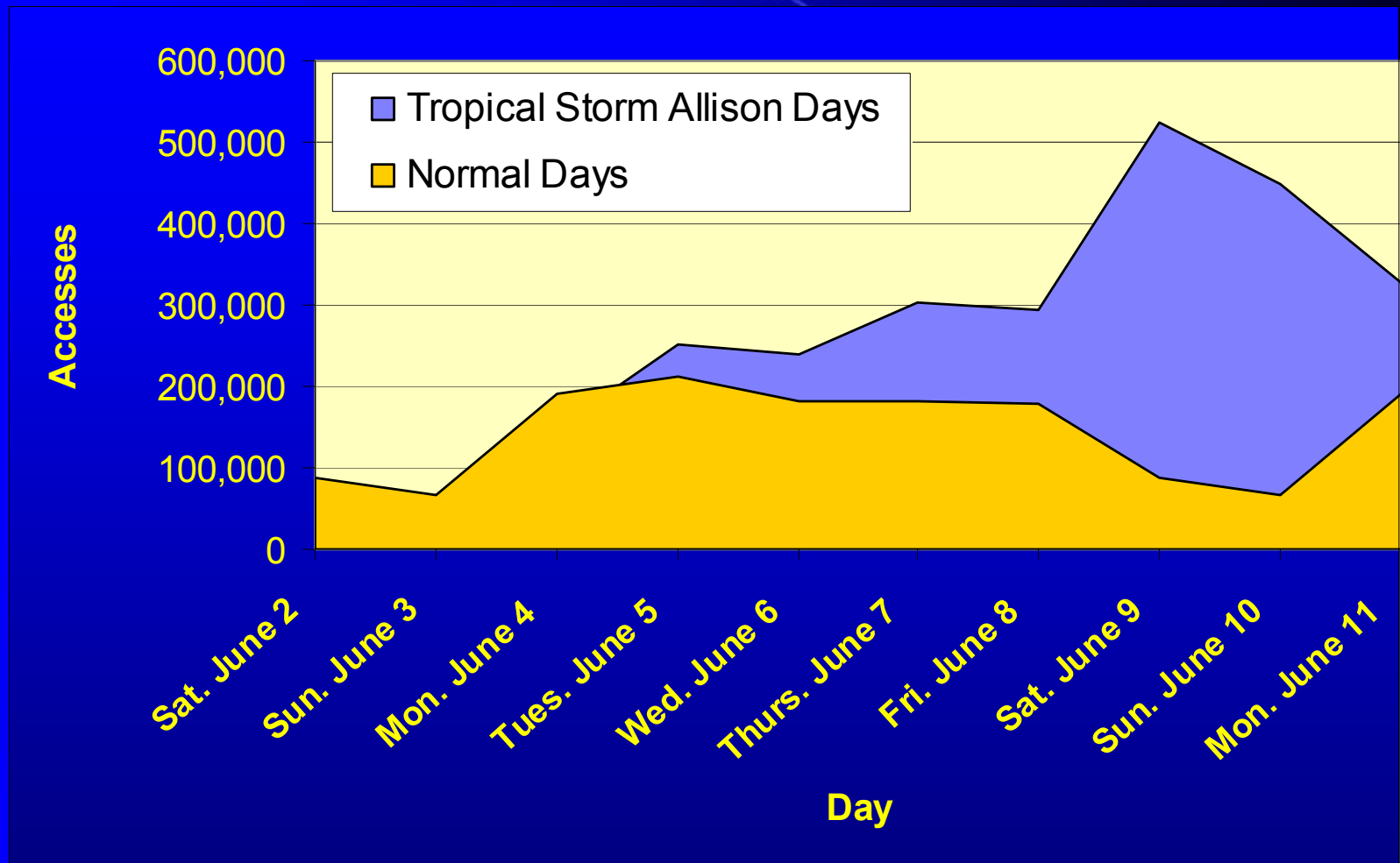


# External Factors Influencing Success

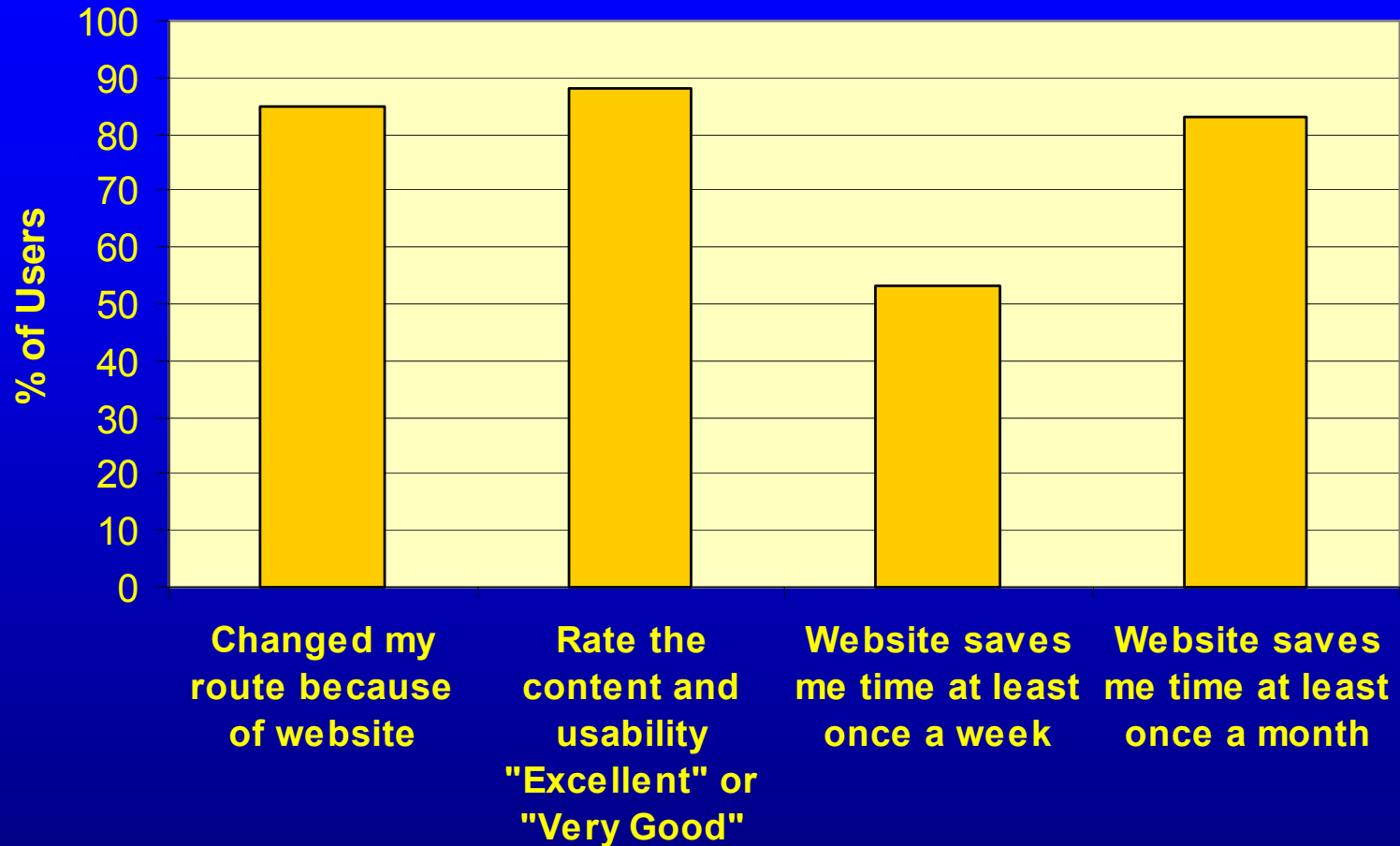
- Highly congested region
- Frequent, unpredictable traffic/weather events



# Website Accesses During Extraordinary Events



# User Feedback





# Questions?



*<http://traffic.tamu.edu>*